

WHAT IS CLAIMED IS:

1. A method for manufacturing an organic electroluminescence device, comprising:

5 a first film-forming step for sequentially forming an anode layer and an organic layer including a light-emitting layer on a substrate; and

a second film-forming step for forming an alkali metal or a compound thereof as the cathode layer and then depositing a low electric resistance metal, wherein

10 in the second film-forming step, the alkali metal or compound thereof is diffused in the low electric resistance metal and the organic layer.

2. The method for manufacturing an organic electroluminescence device according to claim 1, wherein the alkali metal or compound thereof is comprised of Cs or a compound thereof.

3. The method for manufacturing an organic electroluminescence device according to claim 2, wherein the compound is comprised of one of oxides, nitrides, fluorides, sulfides, and mixtures of the same.

4. The method for manufacturing an organic electroluminescence device according to claim 2, wherein in the second film-forming step, a film thickness sensor in which an organic film is previously formed on a quartz crystal is set at a position different from a position of the substrate, and the Cs is simultaneously formed on the organic layer and the organic film, whereby a thickness of the Cs deposited on the organic layer is measured in real-time through the film thickness sensor.

5. The method for manufacturing an organic electroluminescence device according to claim 4, wherein in the second film-forming step, a deposition rate of the alkali metal or compound thereof

is a value in a range from 0.05 nm/sec to 0.1 nm/sec.

6. The method for manufacturing an organic electroluminescence device according to claim 4, wherein in the second film-forming
5 step, a deposition rate of the low electric resistance metal is a value in a range from 1 nm/sec to 10 nm/sec.

7. An organic electroluminescence device comprising:
an anode layer formed on a substrate;
10 an organic layer which is formed on the anode layer and includes a light-emitting layer; and
a cathode layer which is formed on the organic layer and in which an alkali metal or a compound thereof is diffused in a low electric resistance metal, wherein
15 an ion radius of the alkali metal among the alkali metals and compounds thereof is larger than that of the low electric resistance metal.

8. The organic electroluminescence device according to claim
20 7, wherein the alkali metal or compound thereof is comprised of Cs or a compound thereof.

9. The organic electroluminescence device according to claim
7, wherein the compound is comprised of one of oxides, nitrides,
25 fluorides, sulfides, and mixtures of the same.

10. The organic electroluminescence device according to claim
8, wherein the Cs forms a layer having a thickness in a range
from 10 to 20 nm in the cathode layer.

30 11. The organic electroluminescence device according to claim
8, wherein the low electric resistance metal forms a layer having a thickness of substantially 200 nm in the cathode layer.